

**REMARKS**

**Preliminary Matters**

Applicants note that the Examiner has acknowledged the claim to foreign priority and has acknowledged receipt of a certified copy of the priority documents.

Applicants note that the Examiner has not initialed the PTO-1449 and has not indicated consideration of the references submitted with the Information Disclosure Statements of July 12, 2004, December 9, 2004, June 23, 2005, and March 15, 2007. Applicants respectfully request the Examiner to initial the PTO-1449 and indicate consideration of all the references submitted with the above Information Disclosure Statements. For the Examiner's convenience Applicants include a copy of the PTO-1449 for each of the Information Disclosure Statements.

**Claims**

Claims 1-60 are the claims originally pending in the application.

**Claim Objections**

The Examiner has objected to claims 29-34 due to a minor informality. Applicants have amended claims 29-34 and respectfully request the Examiner to withdraw the objection.

**Claim Rejections 35 U.S.C. § 112, Second Paragraph**

The Examiner has rejected claims 1 and 6 under 35 U.S.C. § 112, Second Paragraph as allegedly being indefinite. The Examiner has specifically objected to the limitation "scanning channels by using the channel information" and has requested a more clear statement.

Applicants have amended claims 1 and 6 and submit that claims 1 and 6 comply with 35 U.S.C. § 112, second paragraph.

The Examiner has also rejected claims 35, 48, and 53 for reasons similar to the rejection of claims 1 and 6. Applicants have amended claims 35, 48, and 53 and submit that claims 1 and 6 comply with 35 U.S.C. § 112, second paragraph.

**Claim Rejections 35 U.S.C. § 101**

The Examiner has objected to claim 51 as allegedly being directed to non-statutory subject matter. The Examiner alleges that claim 51 does not fall into any of the four statutory categories of patentable subject matter. Applicants submit that claim 51 recites a computer-readable storage medium storing a program, which clearly falls within one of the four classes of statutory subject matter, namely an article of manufacture.

The Examiner also states that the claimed invention is directed to a judicial exception and is not directed to a practical application. Applicants have amended claim 51 and submit that amended claim 51 recites, *inter alia*, the channel information is provided to a mobile station to select a new access point during a handoff in a wireless local area network. Therefore, the claim provides a useful and tangible result.

**Claim Rejections 35 U.S.C. § 102**

I. Claims 7 and 42 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Rom (US 6,360,264), hereinafter “Rom”.

**The ROM reference**

The Rom reference discloses that when a node travels away from a region of its current access point, its communication link with the current access point deteriorates. When the node determines that a communication link has been severed and determines that handoff is necessary, the node selects a new access point based on a quality of signal received from the other access point. Once the node has selected a new access point, it tries to convince the new access point to accept the handoff. The node accomplishes this convincing by communicating an instruction to the current access point, which then is relayed to the new access point. The new access point then transfers a packet containing operating parameters to the node.

**Independent Claim 7**

Applicants have amended claim 7 and traverse the rejection.

The Examiner states that upon receipt of the instruction, the selected access point (new access point as described in the description of the Rom reference) transmits operating parameters to the node, which the Examiner contends as corresponding to the claimed channel information. However, this transmission of the operating parameters occurs after the node has already selected the new access point. Amended claim 7 recites, *inter alia*, the collecting channel information and the outputting of a response message occurs prior to selection of a new access point.

Therefore, Rom does not anticipate claim 7 and Applicants request the Examiner to withdraw the rejection.

**Independent Claim 42**

Claim 42 is not anticipated by Rom for at least the reasons discussed with respect to claim 7.

II. Claims 1, 2, 5, 11-16, 18, 20-26, 28, 29, 33, 34, 40, 43-46, 48-50, 52, and 53 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Lefkowitz. (US 6,990,343), hereinafter “Lefkowitz”.

**The Lefkowitz Reference**

The Lefkowitz reference discloses that a wireless communication device (STA) 205 leaves the coverage area of a first access point (WAP#1) 210 and approaches the coverage area of a second access point (WAP#2) 215. Once the signal from 210 becomes weak, the STA 205 begins handoff. The STA 205 disconnects its link with 210 and starts to look for a new WAP, i.e., starts to look for a new access point. The STA 205 performs signal scan to test for the signal strength of other WAPs and selects the WAP with the maximum signal strength.

For at least the following reasons, Applicants traverse the rejections.

**Independent Claim 1**

The Examiner does not state a one to one correspondence of each claim element with its prior art counterpart. Therefore, the arguments presented in this amendment are based on the Applicant's understanding of the Examiner's analysis.

The Examiner states that Lefkowitz discloses the STA 205 scanning signals from other WAPs of sufficient strength. See Office Action page 6. However, Lefkowitz does not scan for signals using channel information, which was received from a present access point of the STA 205. For example, Lefkowitz discloses that STA 205 scans for signals and selects WAP #2215. See [0036]. However, the scanning for signals is not using channel information received from a present access point. A present access point is an access point whose coverage area is being left by the mobile station.

Therefore, claim 1 is not anticipated by Lefkowitz.

Claim 2 is patentable at least by virtue of its dependency on claim 1.

**Independent Claim 5**

Applicants submit that Lefkowitz does not disclose a temporary connection being established between the new access point and a previous access point of the mobile station.

As stated earlier, the Examiner has not identified which element in Lefkowitz corresponds to the claimed previous access point. The Examiner states that the STA 205 establishes a temporary connection with the WAP#2 (215). See Office Action page 8. Even if it is assumed that WAP#2 corresponds to the claimed new access point, STA 205 is not an access point and hence, cannot correspond to the claimed present access point. STA 205 is a wireless communication device. See [0032]. Further, even if the Examiner assumed that the STA 205 is an access point, then Applicants request the Examiner to clarify which element of Lefkowitz

corresponds to the claimed mobile station. Accordingly, Lefkowitz does not disclose the temporary connection between a present and new access point of the mobile station.

Therefore, claim 5 is not anticipated by Lefkowitz.

#### **Independent Claim 11**

The Examiner states that the WAP#2 (215) receives a "REASSOCIATE-REQUEST" request from the STA 205. See Office Action page 8. The Examiner again states that a temporary connection is established between WAP#2 and the STA 205. However, even if it was assumed that WAP#2 receives a reassociation message, Lefkowitz does not teach or even suggest that a temporary connection is established between WAP#2 and a previous access point and further because STA 205 is not an access point.

Therefore, claim 11 is not anticipated by Lefkowitz.

Applicants submit that claims 12-15 are patentable at least by virtue of their dependency on claim 11.

#### **Independent Claim 16**

Claim 16 recites, *inter alia*, scanning channels according to channel information received from a present access point. A similar feature was discussed above with respect to claim 1. The arguments regarding this feature apply to claim 16, and at least for this reason, claim 16 is patentable.

Claim 16 also recites, *inter alia*, a temporary connection being established between the new access point and the present access point.

A similar feature was discussed above with respect to claim 5. The arguments regarding this feature apply to claim 16, and for this and other reasons, claim 16 is patentable.

Applicants submit that claims 18, 20-22 are patentable at least by virtue of their dependency on claim 17, which is patentable over Lefkowitz and Rom as discussed later. Further, Applicants submit that Rudolf does not cure the deficiencies of Lefkowitz and Rom.

**Independent Claim 23**

The Examiner states that Lefkowitz discloses an access point WAP#2 (215) that receives a reassociation message from the STA 25. The Examiner then states that both the WAP#1 and WAP#2 have the capability to process temporary connection and also terminate connection. See Office Action page 15.

Applicants submit that a temporary connection is not established between WAP#2 and WAP#1. Further, the Examiner has rejected claim 23 under 35 U.S.C. § 102(e) and hence the Examiner must show that the reference clearly and unequivocally discloses every element and limitation of the claims.

The Examiner loosely states that both WAP#1 and WAP#2 have the capability to process temporary connections. As discussed earlier with respect to claim 5, a temporary connection is not established between WAP#1 and another access point.

Therefore, claim 23 is not anticipated by Lefkowitz.

Applicants submit that claims 24-26 are patentable at least by virtue of their dependency on claim 23.

**Independent Claim 28**

The Examiner states that Lefkowitz discloses a WAP#1 (210), which the Examiner contends as corresponding to the present access point. The Examiner also states that WAP#1 (210) transmits a message to the STA 205 informing the STA 205 that it is moving out of the

coverage area of WAP#1 (210). The Examiner states that the above message corresponds to the claimed channel information on access points.

Applicants have amended claim 28 to clarify that the channel information received by the handoff alert message process unit is channel information on access points in an extended service set other than the present access point. Applicants submit that the message from the WAP#1 to the STA 205 is simply a message letting the STA 205 know that it is going out of the coverage area of WAP#1, and hence will have to look for another access point. See [0033] of Lefkowitz.

Therefore, Lefkowitz does not teach or even suggest that such a message contains channel information on other access points in an extended service set.

Applicants submit that at least for reasons discussed above, claim 28 is not anticipated by Lefkowitz.

Applicants submit that claims 29, 33, and 34 are patentable at least by virtue of their dependency on claim 28.

#### **Independent Claim 40**

Claim 40 recites, *inter alia*, a temporary connection being established between the new access point and the present access point.

Applicants submit that the above feature of claim 40 is not taught or even suggested by Lefkowitz and that arguments to that effect have been presented earlier with respect to claims 5, 11, and 23.

Therefore, claim 40 is not anticipated by Lefkowitz.

#### **Independent Claim 43**

Claim 43 recites, *inter alia*, establishing a temporary connection with a previous access point of the mobile station in response to receiving a reassociation message.

A similar feature was discussed above with respect to claim 11. The arguments regarding this feature apply to claim 43, and for this and other reasons, claim 43 is patentable.

**Independent Claim 44**

Claim 44 recites, *inter alia*, collect channel information on access points in an extended service set in response to receiving a handoff alert message from the mobile station.

Applicants submit that the Office Action has several inconsistencies. For example, the Examiner alleges on page 16 of the Office Action that the WAP#1 transmits a message to the STA 205 informing the STA 205 that it is moving out of its coverage area. The Examiner states that the message corresponds to the claimed “handoff alert message”. Hence, the Examiner states that a handoff alert message is sent by the WAP#1 to the STA 205. Claim 44 recites, *inter alia*, receiving a handoff alert message from the mobile station. If the Examiner contends that STA 205 corresponds to the claimed mobile station, then the above two statements are contradictory because the same message cannot be sent and received by the same unit.

The Examiner states on pages 20 and 21 of the Office Action, “Lefkowitz discloses WAP#1 detects low signal levels within a effective coverage area”. However, the detection of low signal levels is with respect to the STA 205, which is not an access point. Therefore, the detection of low level signals cannot anticipate the feature of claim 44, i.e., “collect channel information on access points in an ESS”.

Therefore, Applicants submit that claim 44 is patentable.

**Independent Claim 45**

Claim 45 recites, *inter alia*, establish a temporary connection with a previous access point of the mobile station in response to receiving a reassociation message from the mobile station.



A similar feature was discussed above with respect to claim 23. The arguments regarding this feature apply to claim 45, and for this and other reasons, claim 45 is patentable.

Applicants submit that claim 46 is patentable at least by virtue of its dependency on claim 45.

**Independent Claim 48**

Applicants have amended claim 48. In view of the self explanatory amendment to claim 48, Applicants submit that claim 48 is patentable for reasons similar to those discussed with respect to claim 28.

Applicants also submit that claims 49 and 50 are patentable at least by virtue of their dependency on claim 48.

**Independent Claim 52**

Claim 52 recites, *inter alia*, an access point comprising means for establishing a temporary connection with a previous access point of the mobile station in response to a reassociation signal.

As discussed earlier with respect to claim 23, such a feature is not taught or even suggested by Lefkowitz. Therefore, claim 52 is not anticipated by Lefkowitz.

**Independent Claim 53**

Applicants have amended claim 53. In view of the self explanatory amendment to claim 53, Applicants submit that claim 53 is patentable for reasons similar to those discussed with respect to claim 28.

III. Claim 38 is rejected under 35 U.S.C. § 102(e) as being anticipated by Srinivaara et al. (US Pub. 2004/0202141), hereinafter “Srinivaara”.

Applicants respectfully traverse the rejection and submit that Srinivaara does not qualify as prior art under 35 U.S.C. § 102(e) with respect to the present application.

Applicants submit herewith a Declaration under 37 C.F.R. §1.131 submitted by Mr. Hyong-Uk Choi and Mr. Jun-Hwan Kim, the inventors of the subject application, demonstrating conception of the invention prior to the earliest effective filing date of Srinivaara, January 9, 2003, and due diligence from prior to January 9, 2003 and until constructive reduction of practice of the invention on January 23, 2003.

Therefore, removal of Srinivaara as a reference is respectfully requested. Accordingly, Applicants respectfully request that the 35 U.S.C. § 102(e) rejection of claim 38 be withdrawn.

IV. Claims 51 and 54-60 are rejected under 35 U.S.C. § 102(e) as being anticipated by Zhong (US Pub. 2006/0153133), hereinafter "Zhong".

Applicants note that the PCT filing date of Zhong is November 27, 2003. Applicants also note that Zhong claims priority from Provisional application number 60/432,534, filed on December 11, 2002. Therefore, the 102(e) date for the Zhong reference is December 11, 2002. The priority date for the subject application is January 23, 2003

Applicants submit herewith a Declaration under 37 C.F.R. §1.131 submitted by Mr. Hyong-Uk Choi and Mr. Jun-Hwan Kim, the inventors of the subject application, demonstrating conception of the invention prior to the earliest effective filing date of Zhong, December 11, 2002, and due diligence from prior to December 11, 2002, and until constructive reduction of practice of the invention on January 23, 2003.

Therefore, removal of Zhong as a reference is respectfully requested. Accordingly, Applicants respectfully request that the 35 U.S.C. § 102(e) rejection of claims 51, 54-60 be withdrawn.

IV. Claims 3 and 4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lefkowitz in view of Rom.

Applicants submit that Rom does not cure the deficiencies of Lefkowitz. Therefore, claims 3 and 4 are patentable. They are also patentable by virtue of their dependency on claim 1.

V. Claim 6 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Lefkowitz in view of Rom.

Applicants submit that Rom does not cure the deficiencies of Lefkowitz. Therefore, claim 6 is patentable. Claim 6 is also patentable by virtue of its dependency on claim 5.

VI. Claims 8-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Rom in view of Lefkowitz.

Applicants submit that Lefkowitz does not cure the deficiencies of Rom. Therefore, claims 8-10 are patentable. They are also patentable at least by virtue of their dependency on claim 7.

VII. Claim 17 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Lefkowitz in view of Rom.

**Independent Claim 17**

Applicants amend claim 17 to clarify that a channel information collection unit of an access point collects channel information on a plurality of neighboring access points in an extended service set.

Applicants submit that Lefkowitz and Rom combined do not teach this feature of claim 17. For example, the Examiner states that in response to an ASSOCIATE-REQUEST message, WAP#1 sends an ASSOCIATE-RESPONSE message to the STA 205. The Examiner then asserts that WAP#1 detects lower signal levels from the STA 205, when the STA 205 moves to outer limits of the coverage area of WAP#1. However, detecting lower signal levels from the

STA 205 due to the STA 205 moving to outer limits of the coverage area of WAP#1 cannot correspond to collecting channel information on a plurality of neighboring access points.

Therefore, claim 17 is patentable over Lefkowitz and Rom.

VIII. Claim 19 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Lefkowitz as applied to claim 17 and further in view of Rudolf et al. (US Pub. 2005/0053043).

Applicants note that the U.S. filing date of Rudolf is July 16, 2004 and that Rudolf claims priority from Provisional Application No. 60/487,980 filed on July 17, 2003. Applicants submit a verified English translation of the foreign priority document, **KPA 10-2003-0004509**. As the priority date of the subject application is January 23, 2003, which is earlier than the effective filing date of Rudolf, Applicants submit that Rudolf cannot serve as prior art against the subject application.

Therefore, Applicants request the Examiner to withdraw the 103(a) rejection of claim 19.

IX. Claims 27 and 47 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hunkeler (US 6,950,655), hereinafter "Hunkeler" in view of Lefkowitz.

**Independent Claim 27**

The Examiner admits that Hunkeler does not disclose a temporary connection/termination process unit for establishing a temporary connection between predetermined access points subject to the handoff operation, in response to a reassociation signal.

The Examiner cites Lefkowitz to make up for the above deficiency of Hunkeler. As discussed earlier with respect to claim 23, Lefkowitz does not teach or even suggest such a feature. Therefore, Applicants submit that claim 27 is patentable over Hunkeler and Lefkowitz because Lefkowitz does not cure the deficiencies of Hunkeler.

**Independent Claim 47**

Claim 47 is patentable over Hunkeler and Lefkowitz at least for reasons discussed above with respect to claim 27.

X. Claim 30 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Lefkowitz as applied to claim 28 in view of Srinivaara.

Applicants submit that claim 30 is patentable at least by virtue of its dependency on claim 28 and because Srinivaara does not constitute prior art against the subject application.

Claims 31 and 32 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Lefkowitz as applied to claim 28 in view of Rom.

Applicants submit that Rom does not make up for the deficiencies of Lefkowitz and that claims 31 and 32 are patentable at least by virtue of their dependency on claim 28.

XI. Claim 35 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Lefkowitz in view of Rom and Srinivaara.

Applicants have amended claim 35 to clarify, that the channel information received by the handoff alert message process unit is channel information on a plurality of access points in an extended service set other than the present access point.

Applicants submit that even assuming arguendo that Lefkowitz and Rom may be combined, their combination does not teach every feature of claim 35. For example, the operating parameters of Rom correspond to only one access point, which has been selected by the node to be its new access point. Therefore, even if it was assumed that somehow Lefkowitz was to transmit such parameters to the STA 205 in response to receiving an ASSOCIATE-REQUEST message, Lefkowitz does not disclose transmitting the parameters of a plurality of access points different from WAP#1.

Further, Srinivaara does not constitute prior art against the subject application.

Therefore, claim 35 is patentable.

XII. Claims 36 and 37 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Lefkowitz in view of Rom.

**Independent Claim 36**

Applicants have amended claim 36 to clarify that the handoff alert message send unit sends a handoff alert message to a present access point of the mobile station to collect channel information on a plurality of access points different from a present access point in an extended service set.

Applicants submit that the STA 205 of Lefkowitz does not collect channel information on a plurality of access points different from a present access point due to reasons discussed above with respect to claim 35.

Therefore, claim 36 is patentable over Lefkowitz and Rom.

Applicants submit that claim 37 is patentable at least by virtue of its dependency on claim 36.

XIII. Claim 39 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Srinivaraa in view of Rom.

As noted earlier, Srinivaara does not constitute prior art against the subject application. Therefore, Applicants respectfully request the Examiner to withdraw the rejection of claim 39.

XIV. Claim 41 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Lefkowitz as applied to claim 40 and further in view of Rom.

Applicants submit that Rom does not cure the deficiencies of Lefkowitz and that claim 41 is patentable at least by virtue of its dependency on claim 40.

**Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

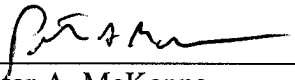
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WASHINGTON OFFICE

**23373**

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